Application of: Kajander et al

Art Unit: 1771

Serial No. 09/923,932

Case Docket No. 7144

Filed: August 7, 2001

Examiner: Elizabeth Cole

For: Method of Making Foam Coated Mat Online and Coated Mat Product

Commissioner of the Patents & Trademarks
Washington, D. C. 20231

Dear Sir:

DECLARATION UNDER 37 CFR 1.132

I am a co-inventor of the inventions disclosed in United States Patent Application S. N. 09/923,932 filed on August 7, 2001 and conducted numerous experimental runs using the method and parameters disclosed in this application to make coated mats by coating a wet, nonwoven fibrous web with a froth or foam followed by drying and heating to cure the polymers in the binder and/or coating to produce coated mats.

In foam technology, "blow ratio" is defined as the volume, in cubic centimeters, divided by the weight, in grams, i.e. the inverse of the density. Thus, where Horner, Jr. et al (U. S. Patent 6,365,533) teaches in col. 4 at lines 29-31, that their foam for the coating can be as light as 0.15 gm/cc, this foam had a blow ratio of 1 cc/0.15 grams = 6.67. This is a much lower blow ratio than the foams used in our invention as disclosed in the above patent application.

In Example 1 of this same Horner, Jr et al patent, a drying time of 3 minutes is used plus a curing time at a higher temperature of 3 minutes was used. The drying and curing time required is very critical to the cost of a coated mat because it defines the maximum line speed, production rate, that can be used. This is because the oven is a fixed length. The longer the drying time the lower the production rate and the higher the cost of the coated mat. A drying and curing time of 6 minutes indicates that the permeability of the coated mat of Horner, Jr. et al is very low and that the drying is from the surface only of the mat or coating, and that conduction is the principle means of heating the coated mat to cure the resin(s) in the foam. I conclude this based on the fact that mats of our invention having an air permeability of at least 338 CFM/sq. ft. are dried and cured in an on-line hot air oven that was 160feet long at a line speed of at least 300 ft./min., a drying time of only 0.54 minute. This much lower drying time compared to the coated mat of Horner, Jr. results mainly from the

high permeability of he mat allowing the hot air readily pass through the mat, removing the water much faster and heating the mat to the curing temperature much faster than with the coated mats of Horner, Jr. et al. This is most likely due to the foam compositions used by Horner, Jr. et al containing lattice stabilizers which prevents the foam from breaking down during drying. In contrast, our invention uses foam compositions that do break down fairly quickly allowing the hot air to pass through the coating and the mat.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Signed: Richard Emil Kajander

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DATE: 8/13/03